

damaged, and it is supplied in the form of an electronic device, such as a SAW filter device, etc. For sealing such an electronic element within the electronic part case, the element must be mounted and hermetically sealed within it, so that it has no contact with members constructing the case, while terminal portions thereof, being electrically connected to the element, must be led out to an outside of the case. For the electronic part case for use in such an arrangement, a ceramic case is well known. For example, with an electronic part, which comprises a built-in SAW element of surface-mount type therein, a chip of the SAW element is mounted within the ceramic case and it is treated with wire-bonding thereon, thereafter a cover is welded onto the case, thereby sealing between them. Also, the structure is disclosed, in which the SAW element is received or stored within a resin package while using the resin package in combination with a frame made from a resin plate and the cover on a wiring board made from a copper-clad laminate, for example, in Japanese Patent Laying-Open No. Hei 2-179018 (1990) and Japanese Patent Laying-Open No. Hei 10-163647 (1998).

BI
(cont)

However, the former of those conventional electronic devices mentioned [in the] above is inappropriate for mass production of cheap and small-sized electronic devices in large number thereof, since the ceramic case itself is expensive and is not suitable material for small-size structures. Also, it is difficult to take or cut out large numbers of ceramic cases from a large-sized ceramic material. Also, the latter device mentioned above has a drawback that the characteristics of the built-in electronic element, such as the SAW filter element, etc., are deteriorated, since a frame made of resin is attached or adhered upon conductor patterns of the printed wiring board. Specifically, bonding power of the resin case on the conductor patterns on the printed wiring board is weak and sealing property is low between them.

SUMMARY OF THE INVENTION

An object according to the present invention is, for overcoming such drawbacks in the conventional arts mentioned above, to provide an electronic device in which an electronic element is hermetically sealed, and a method for manufacturing thereof as well, and further a printed wiring board being suitable for